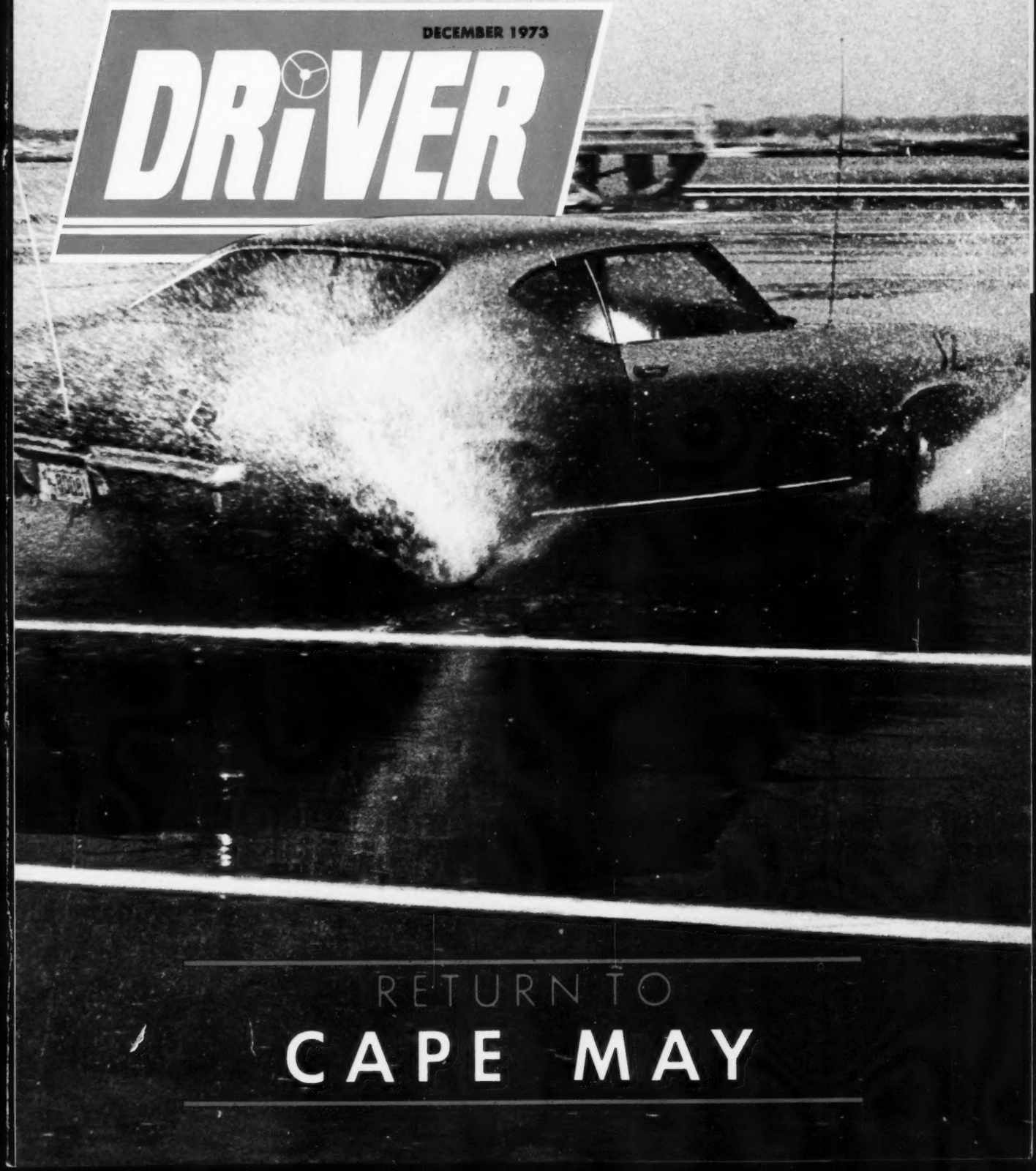
16 WAYS TO SAVE GAS

ACROSS THE LINE

DECEMBER 1973

DRIVER



RETURN TO

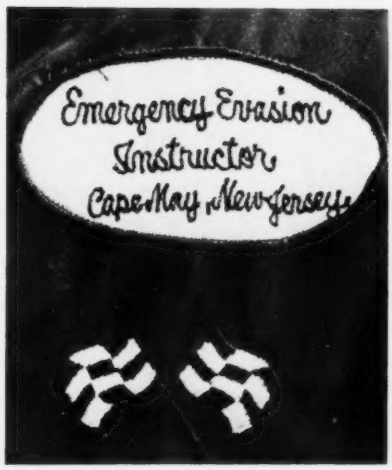
CAPE MAY

DRiVER

Four Air Force men participate in the Coast Guard's dynamic driver training course

RETURN TO

(far left, near left, below) **Kaaawhomp!** Pedestrian evasion requires a special kind of alertness on the part of the driver. In this exercise a pedestrian dummy (?) suddenly appears in the path of the driver. Most drivers freeze on the brake and plough a furrow straight through the dummy. What would you do?



CAPE MAY

On the third run-through, this time at 50 miles an hour, we drove off the road surface and onto loose dirt. Suddenly Ed shouted "spin the wheel . . . quick, give her the gas!" That's when the Chevrolet sedan really turned on.

With about three-quarters throttle and full left wheel, the car swung around 180° as the rear wheels dug into the dirt, spewing a cloud of mud and water. The result; the car came to a complete stop . . . *without application of the brake.*

Oblivious to the muddy water dripping down my last clean uniform, I (your editor) sat at the controls, heart pounding audibly. What hit first was a glow of accomplishment. I had mastered a life-saving maneuver. Better yet, I now had a true feel for what can be done by the driver to get out of a difficult situation. Theory and ideas became reality. This is what the Driver Improvement Course at Cape May is all about.

Through the courtesy of the U.S. Coast Guard, four Air Force emergency vehicle operators were given special per-

continued

(left)
Four Air Force men attended the unusual "Driver Improvement Program" at Cape May, New Jersey. Informal rap sessions, like this one with instructor Jay Obermeyer, helped clear up questions raised after having a go at various exercises on the large track.

DRIVER

THE TRAFFIC SAFETY MAGAZINE FOR THE MILITARY DRIVER

VOLUME 7 DECEMBER 1973 NUMBER 7

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THE EDITOR SPEAKS

DOUBLE CLUTCH

SHOULD YOU THINK A LITTLE BIGGER?

If you're thinking about buying a car right now, chances are you're thinking small, and with good reason. Small cars are cheaper to buy, cheaper to run, easier to handle in traffic, and produce less air pollution. The list goes on and on, and every reason is a good one.

But before you make your move, think about a couple of things that don't get much publicity:

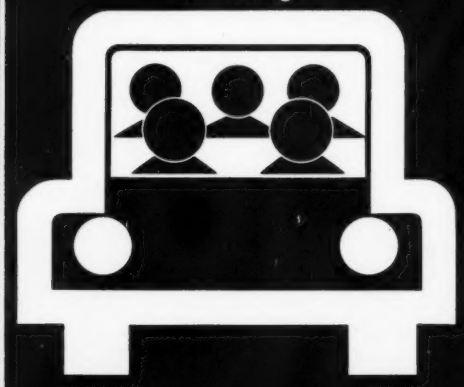
First, what kind of driving are you going to do? If you do very much freeway driving you're better off in a bigger car, especially at night during the "drunk hours." Better off by a significant amount, because minis and subcompacts really do crumple more in a crash. The heavier the car, the safer for highway driving. The experts have the facts nailed down and there's no room for argument.

Secondly, are you serious about operating economy? How much gasoline you burn depends a lot on the extras and options you choose. The Environmental Protection Agency checked out a couple of Ford Torinos. The one with a small 250-cubic-inch engine and manual shift got 17.9 miles to the gallon. The same car with 351 cubes and automatic transmission got only 9.6. And that's not even talking about running the air conditioner.

The experts say a good compromise between safety and economy for the freeway driver is the intermediate or the large compact—around 3500 pounds—with the smallest engine recommended by the manufacturer.

As they're always telling motorcyclists, the real problem is the packaging. The less the packaging, the bigger the squish. Think about it?

NEXT MONTH
Car Pooling



Some drivers think blowouts are no big deal. They may change their minds, however, after experiencing several while driving this special car which can be rigged to blowout and reinflate any or all wheels.

One dangerous feature of a blowout is demonstrated here as a student is unable to keep the car in its traffic lane. Under highway conditions, this could result in a head-on collision.

mission to attend the one-week course. DRIVER was along for the last few days to observe the AFers in action, and learn their reaction to this unique military training course. We were also in attendance to try our hand at several exercises in order to pass on some pointers to you, our readers.

BLOWOUTS

The bad deal about blowouts is the element of surprise. You never know when it's going to happen and when it does, it may drastically change your car's handling characteristics. If you do not have a firm grip on the wheel, or if you overreact, you can roll the car or end up losing control and heading into oncoming traffic.

The special blowout-capable, roll bar-equipped car at Cape May demonstrates how this happens. Students experiencing a blowout even at slow speeds have difficulty keeping the car in the same lane because of the pull. These tires which blow out on command collapse almost immediately and so give the student the worst possible blow-out situation.

Here are some interesting pointers we picked up concerning blowouts:

■ A major cause of tire failure is rotted tire cores (valve stems). When you periodically check your car's tires for wear and damage, also check core condition by grabbing the core and yanking it. Any sign of cracks is reason to replace a core. In addition, replace the core whenever a new tire is installed, or more often if you do a lot of driving. They cost only about 50 cents each.

■ While it's nearly impossible to anticipate a blowout, you can be prepared by keeping an alert posture behind the wheel. This includes maintaining a firm grip on the wheel with both hands. It helps to keep your mind tuned in to your driving, also.

■ When a blowout occurs the vehicle's balance changes as the wheel drops. This can be bad news in a corner when the balance is already shifted to one side. The trick is to steer away from the blowout very gradually. If you jerk the wheel in the opposite direction from the blowout you'll probably roll the car.

■ The natural tendency in a blowout is to panic and lock the brakes. Don't do it! If you must brake, react rapidly, but brake gently. Pump the pedal to slow and regain control.

■ About ten percent of all accidents are a result of tire failure so it pays to keep good skins on the rims.

No brakes! What to do? That is the question, and one for which an answer is found fast on the Coast Guard's Cape May driver's course.

PEDESTRIAN EVASION

Lurching into the path of an auto is a dumb thing for a pedestrian to do. Right? It sure is, but it's a widespread daily occurrence which often results in tragedy. Perhaps pedestrians would be more concerned if they knew the results of a recent test.

Drivers participating in this test (not at Cape May) didn't do too well in reacting to a dummy pedestrian which suddenly appeared in the path of their car. Twenty-seven of the 33 drivers tested made a panic brake stop and hit the dummy headon.

Braking was the big thing on the minds of these drivers, not steering, even though the test was arranged so it was easily possible to evasively steer the car around the dummy.

The Cape May instructors had some good suggestions regarding pedestrian evasion.

■ *Always* yield the right of way to pedestrians.

■ The word for pedestrians is "unpredictable," especially when engaged in such activities as rushing to get on a bus.

■ When in danger of hitting a pedestrian, blow the horn, decelerate by pumping the brakes, check the traffic quickly for a space to take evasive action, and swerve *gradually* when insufficient stopping distance exists.

continued

■ Always go for evasive action over panic braking.

NO BRAKES

There's nothing quite like it—that awful feeling when you step on the brakes but nothing happens. Wadayudo?

Well, many people don't do a whole lot. In fact, they freeze on the pedal. At Cape May they do it every day—but not for long.

A nifty gadget in one of the Cape May cars enables an instructor to remove and restore braking ability whenever he chooses (see photo). Here's what it's like.

Say you've run through the controlled braking exercise a couple of times and have worked up to trying it at 50 miles-an-hour. Well your mind's locked into the matter ahead as you watch the speedometer needle edge up to 50. Then it happens, the instructor yells "hit the brakes" and you do, but they don't.

There you sit, helplessly stiff-legging the brake pedal as your car continues forward at 50, cones orbiting all around you, the end of the pavement looming ahead. The instructor doesn't say much. He just watches to see if you make any attempt to salvage the situation. Most drivers don't on the first run-through, which sort of tells you something about the average, untrained, everyday driver.

But some drivers do do something. They pump the brakes which restores the braking action in the test car. Pumping the brakes in an ordinary car, which has lost braking action, often restores partial braking action, so it's best to do this first.

Of course, there are other things that can be done, such as gearing down, applying the emergency brake, or perhaps a 180-degree spin stop. But the first thing to attempt to do is get your brakes back.

There's a lot to learn at Cape May. You may go into the course believing you are Joe Hero when it comes to driving. But when you graduate your self-appraisal may have changed, unless you really are a Jackie Stewart or Mark Donohue.

Perhaps the biggest lesson to be learned is that the brake is not necessarily going to save you from an accident in an emergency situation. In fact, in many cases it can do you in faster than you would believe. But, on the other hand, correct use of the brake in an emergency situation can work wonders. It's the guys who freeze on the pedal who spell their own doom.

Here are some comments from the Air Force men fortunate enough to be allowed to participate in the "Experiment at Cape May."*

**DRIVER just learned the New Jersey Police plan to expose their drivers to this excellent training.*

Sgt John J. Weddleton
Security Policeman, Otis AFB, MA

■ "This course really impresses you with a feeling for speed. I never realized how fast 40 miles per hour really is, or how difficult it would be to make evasive maneuvers if you were travelling at an excessive speed.

■ "At Cape May they are very frank and straightforward in their instructions, and treat you like a mature adult. For example, they don't say, 'Don't drink.' Instead they say, 'If you get smashed, get someone else to drive you home.' This is realistic. They scare you, yes, but it's by getting you to realize you can't even *begin* to take evasive maneuvers with your mind dulled by booze. It just won't work.

■ "I used to never bother with a shoulder harness. Then Jay Obermeyer (instructor) took me down the course at 60 miles an hour and jammed on the brakes. That REALLY made me a believer in always using both the seat belts and shoulder harness. With some of the exercises here, you wouldn't even be able to stay behind the controls if you didn't have that shoulder harness fastened. You find that out at the very beginning of this course."

SSgt Ronald P. Jordan
Ambulance Driver, Otis AFB, MA

■ "I learned about this course from the article in DRIVER, * and got special permission from the Coast Guard to attend the course TDY.

■ "As an ambulance driver I often have to drive patients to a civilian hospital 150 miles from the base, because Otis only has a 'band-aid' clinic. My duty driving involves everything from city driving to very hazardous and congested turnpike driving. I've got to drive fast, but safely. That's why this Cape May training is of great value to me.

■ "In this course I've learned some of my weak driving characteristics, especially as it applies to the use of the brake. This big thing I've learned is how to brake in an emergency situation. I learned to maintain full control over the car, rather than have it control me.

■ "I now have a greater respect for motor vehicles. The instructors here are real pros, it doesn't take long to find that out. And that seat belt demonstration. . .wow!"

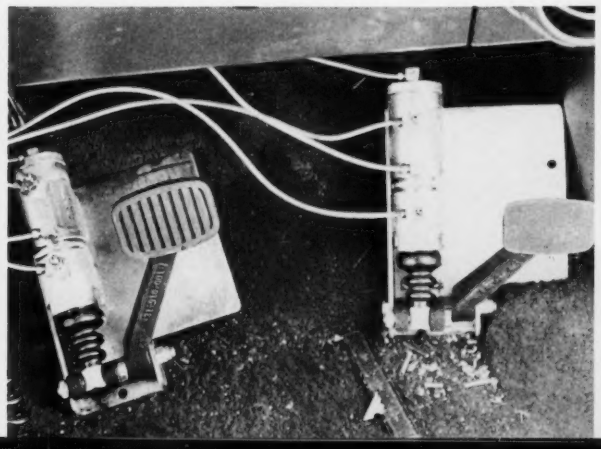
**Experiment at Cape May," Feb '73 DRIVER.*

continued

(right)
Sometimes the simplest exercises are the hardest to master, such as the backing exercise shown here. It takes a real feel for your car to make it backwards through a cone course at about 10 miles-an-hour. Most drivers lack this "feel." As a result their car controls them in an emergency situation. Thus, any driving situation out of the norm can easily lead to disaster.

(left)
One key to pedestrian evasion is proper hand position on the steering wheel. Hands too close together, or the one-hand routine, just won't hack it.

(below)
A little dab 'ill do ya. Do you in, that is. This rig allows an instructor to remove and restore braking action. Naturally he does it when you least expect it . . . with interesting results (see article).



Sgt Randall T. Hjorth
Ambulance Driver, Otis AFB, MA

■ "Above all, this course is practical. It gives you training you can't obtain legally or safely any other way. High School drivers ed programs are fine, but they don't teach you avoidance, and that's what keeps you alive.

■ "Most people don't have enough skill in braking. This shows up in all the exercises performed here at Cape May. You can learn the easy way not to freeze on the brakes, or the hard way by having an accident.

■ "Practical accident-avoidance training should be taught in conjunction with any other drivers ed program. Films and multi-media where you push buttons aren't enough. Panic and fear are physiological feelings which are not necessarily stimulated by a film.

■ "For me, this course has reduced my feeling of panic in an accident situation, to just a good scare. This will be a big help to me in making the right moves in avoiding an accident."

Sgt David Pitko
Security Police Patrolman, Otis AFB, MA

■ "I came here thinking I really didn't need this training. I just wanted to get away from the job for awhile, but now, I feel that if I hadn't come I might have become a statistic. I hope more people who think they are 'expert' drivers have the same offer to safely find out how good they REALLY are.

■ "This course has changed my whole attitude towards driving. I never wore seat belts before, but now they're mandatory for me because I've been shown *why* you need them.

■ "The school is great. It gives you that extra time and knowledge you need to avoid an accident. For instance, I didn't realize that with no brakes you could still stop a vehicle by use of the accelerator and steering wheel. It's the wheel friction that stops you."

John Weddleton. "If you get smashed, get someone else to drive you home."

Ron Jordan. "If I could become involved as an instructor in a course like this, I'd reenlist for an extra 15 years!"

Randy Hjorth. "Because of my experience here I now have a good idea of how to get out of an emergency situation."

Dave Pitko. "I never wore seat belts before. . . ."

Miss DRIVER

MARY DONALDSON

"Hi, drivers. The other day a friend of mine was involved in an accident while riding as a front-seat passenger. The door on his side flew open but his seat belt held him in the car. He would almost certainly have been run over in the heavy freeway traffic if he hadn't been restrained. But had he locked his door, he probably wouldn't have suffered the painful muscle injuries he got by being banged in and out of the door opening while hanging in his belt. Of course, locks won't hold in every kind of accident. But it's sure worth a chance. I always keep my doors locked because a girl alone has to worry about some nut jumping in her car while she's stopped at a light. But now I've got an even better reason for pushing down the buttons.

Know
before you go . . .

ACROSS THE LINE

by Donn Binder

You say you've had it with crowded passenger terminals, going without sleep, eating plastic food, living in the same clothes until you get where you're going—then being too tired to do any good?

You say this year you're thinking about doing something *different* during the holidays? Something with less hassle?

Well, don't feel alone; lots of others are thinking the same thing. And more than a few seem to be finding their something *different* in short motor trips across the line into Canada or Mexico.

Well, why not? A little sojourn may be just what you're looking for. After all, driving into Canada or Mexico is no big deal, is it? All you need to do is pack a flee bag, crank-up your wheels, and go, right?

Well. . .no. . .not quite. Not if you want to keep your cool that is.

Although it's usually no big deal for Americans to drive back and forth between the U.S. and Canada or Mexico, there are a few things about their laws—and ours—that can cause you grief if you don't know about them.

Take automobile insurance, for example. Although U.S. coverage is usually okay in Canada, if you should encounter a healthy "fender-bender," you had best be carrying a Canadian Non-Resident Inter-province Motor Vehicle Liability Insurance Card, issued by your company. If you're not —well, you just may end up with your car *impounded!*

On the other hand, down Mexico way if you have an accident, U.S. insurance is usually no good. You must have Mexican insurance; if you don't, not only can your car be impounded —*but you too!*

And then there's this business of customs. There's a dandy little U.S. law in that department that's a stumbling block for many tourists.

It seems that before you take that expensive, foreign-made camera of yours out of the country—even for just a few hours—you'd better register it first with our Customs folks (see Fig. 1). If you don't, you just may find yourself paying the man *import duty* when you come back across the line. (A matter about which our fearless Editor is an expert!)

But all things considered, it's still no big thing to get ready for a hassle-free trip into Canada or Mexico. Basically, these are the major things you need to do.

ON GOING TO CANADA

If you're planning to drive into Canada, be sure to carry positive proof of identification, birthplace, and citizenship or alien registration. For

It pays to prepare for even the most casual trip across the border and know the restrictions involved. Border guards at Tijuana told DRIVER that servicemen most commonly run amuck for attempting to import such items as liquor, fireworks, and switchblades.

your car you should have a copy of its registration and a valid driver's license for the driver.

And if what you're driving isn't registered in your name, then you'll also need a letter from the car's registered owner saying it's okay for you to use it. If you're using a rent-a-car, carry a copy of your rental contract, stipulating use in Canada.

INSURANCE CARD

Then you must have one of those Canadian Non-Resident Interprovince Motor Vehicle Liability Insurance Cards. Actually, despite that long, official title, it's just a small, pale yellow, wallet-size form. And the trick is, you can get one only from *your* insurance company, here in the States. It isn't issued anywhere else; so you'll have to get one before you cross the Canadian border.

As for Canadian customs, clearing is usually a quick, routine matter. And if you're carrying things like skiis, toboggans, snowmobiles, that good-'n-faithful foreign-made camera, etc., you can make things even easier by listing them so that the inspectors can easily identify and record them. (See sample #1) This will also help you when leaving Canada, because then they'll be checking to make sure you're taking your belongings back home.

Now, if you have any specific questions about a trip to Canada, i.e., firearms, two-way radios, animals, food, prohibited goods, currency, studded snow tires, etc., you can direct them to the Canadian Government Travel Bureau, 150 Kent Street, Ottawa, Ontario, Canada K1A 0H6. They'll either help you out, or direct you to one of their many offices here.

ON GOING TO MEXICO

If you're planning a trip to the Republic of Mexico and only going to visit near the border for 72 hours or less, then you won't need much. Just be sure to take positive proof of identification, age, and nationality.

But if you'll be staying for more than 72 hours, or if it's the interior you crave, then it's a Tourist Card (FM.14) you'll need, and a permit to travel by motor vehicle (Instructive HDRF A280).

You can pick up a Tourist Card at any one of a number of places. They're issued here in the States at Mexican Consulates, Tourism Department Offices, and by commercial air and rail carriers that service Mexico. You can also get one at any Mexican Immigration Office located at various points of entry along the border. However, during holiday periods these offices are swamped—get your card

continued

Many visitors to Mexico don't know that insurance by a Mexican company is the only acceptable insurance in Mexico. This insurance should be purchased BEFORE crossing the border, and is available for about $3 per day at sales offices near the border. Also ask for the free tourist information pamphlets.

Certificate of Registration for Personal Effects Taken Abroad. You'll need this form to re-enter the U.S. with foreign-made equipment such as cameras and lenses, without paying duty. Register such equipment with U.S. Customs BEFORE leaving the U.S. The completed form is valid for all trips outside the U.S.

CERTIFICATE OF REGISTRATION
FOR PERSONAL EFFECTS TAKEN ABROAD

Form Approved O.M.B. No. 48-R0394

Name of Owner: GEORGE BROWN

Address of Owner: 12 ELM ST., O[illegible], MO.

Description of Articles:
NIKON F2 35MM CAM[illegible] 7170228
NIKOR 50MM F2.0 L[illegible] 2114498

SAMPLE

I certify that the information shown hereon is true and complete to the best of my knowledge

Signature of Owner: George Brown

Date: 12/10/73

Signature of Customs Official

Certifying officers shall draw lines through all unused spaces with ink or indelible pencil.

The Department of the Treasury
United States Customs Service

Customs Form 4457 (5-22-73)

before reaching the border to avoid very long waits.

MEXICAN INSURANCE

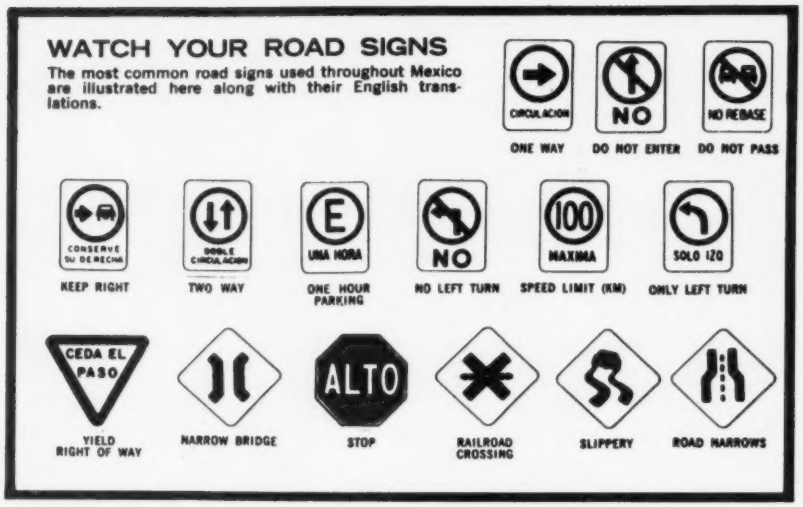
The big thing for Americans to remember about driving in Mexico is that to be properly protected you must have Mexican insurance. Although your present U.S. policy may include certain coverages that extend into Mexico, that only insurance that will unquestionably satisfy Mexican officials is that which is written by a company licensed under the laws of Mexico.

If you have an accident and don't have Mexican insurance, your car can be impounded and you can be jailed. Any accident in Mexico is a serious accident, because any accident is considered a criminal offense!

So, to get your wheels safely across the line, carry a valid driver's license, a vehicle registration certificate—and take out Mexican insurance.

If you don't own the machine you're using, then you'll need a notarized authorization from its registered owner. And if you have a trailer, that too must be covered by Mexican insurance.

Clearing customs is about as easy as in Canada. Any reasonable amount of baggage is usually okay; but you will be restricted to only one still camera and one movie camera with 12 rolls of film for each.



MEXICAN GREEN FLEET

And if you're worried about a language problem, the Mexican Government is looking out for you. Twice each morning and afternoon, every point on each of the nation's major highways is passed by the Tourismo Patrol: Mexico's Green Fleet.

These radio-coordinated patrol cars are manned by English-speaking, two-man crews equipped to handle minor repairs, furnish first aid, and supply information.

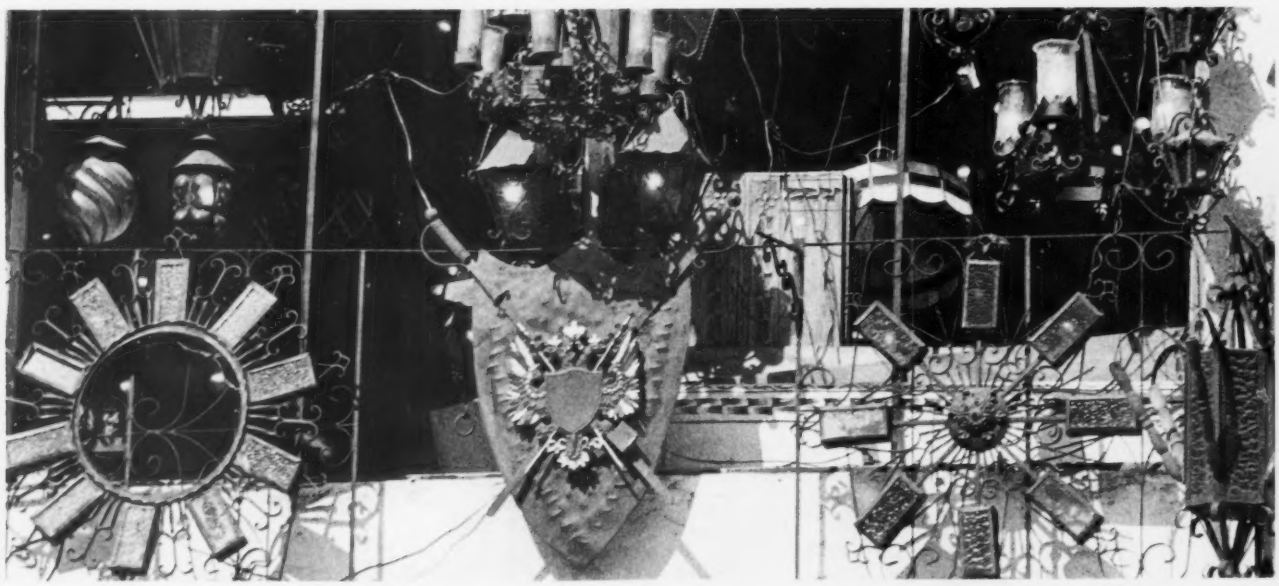
If you should need help, all you have to do is raise the hood and wait.

Now, if you have any specific questions about a trip into Mexico, i.e., currency, climate, hunting, fishing, pets, restricted items, etc., you can write to the Mexican Government, Department of Tourism, Ave Juarez 92, Mexico, D.F. They will either answer your questions or put you on to their nearest office in the U.S.

DRIVING CONDITIONS

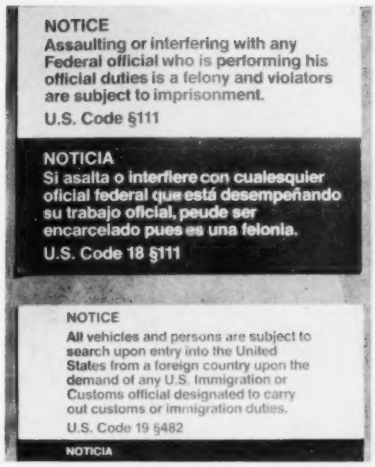
Even a slight accident can spoil the fun when you're in a foreign country, so be alert about your driving, especially on rural roads.

In Mexico you will find the roads are used for all kinds of traffic—carts, pedestrians, farm animals, dogs, chickens, you name it. Running over a chicken in the Iowa countryside is no serious offense—in a Mexican vil-



(above and right)
The trinkets and attractions are inviting, but know what you can bring home with you and the dollar value limit set by U.S. customs.

Reading border signs helps, but why not check the rules BEFORE you go?


NOTICE
Assaulting or interfering with any Federal official who is performing his official duties is a felony and violators are subject to imprisonment.
U.S. Code §111
NOTICIA
Si asalta o interfiere con cualesquier oficial federal que está desempeñando su trabajo oficial, peude ser encarcelado pues es una felonia.
U.S. Code 18 §111
NOTICE
All vehicles and persons are subject to search upon entry into the United States from a foreign country upon the demand of any U.S. Immigration or Customs official designated to carry out customs or immigration duties.
U.S. Code 19 §482
NOTICIA

Declare to inspector all articles acquired in Mexico
Aliens must show identification
Declare al inspector todos los articulos adquiridos en Mexico
Extranjeros deben mostrar identificación

lage it can be a real tragedy.

If you round a bend in the road and find yourself looking at the broad side of a cow, the tragedy can be highly personal. Automobiles and drivers do not hold up well in collisions with cows. So, when driving in Canada or Mexico—or in the western U.S. for that matter—be aware that "open grazing" can mean very large, solid objects in the road way.

Incidentally, much of the southern border of Canada is agricultural land. That means farm machinery and slow-moving trucks and wagons are on the roads. Unless you are experienced in country driving, it will surprise you how fast you can overtake farm equipment. Watch your closing rate carefully.

ON COMING HOME

Before you go anywhere, find out from someone at your local U.S. Customs Office what you need to know about coming back. He'll tell you what you are allowed to bring back into this country. And if there's no Customs Office near you, you can write to the Department of the Treasury, Bureau of Customs, Washington, D.C. 20226, for help.

In the meantime, you will need to register any foreign-made personal articles you intend to take out of the country *before* you go. Now don't just think about that poor old camera of yours, but also watches, binoculars, cassette recorders, jewelry, and even clothing.

All foreign-made articles are subject to import duty each time you bring them into the U.S. unless you prove they were yours before you left.

By the way, because of the dangerous drug traffic, there's a whole bunch of very thorough baggage inspection going on these days. And it will help you keep your cool if you pack your return trip bag for easy checking. It will also help if you pack everything you bought while out of the country separately.

NO BIG DEAL

Although this may seem like a lot to go through just to make a little jaunt across the line, it's not really. You can acually do it all with a few phone calls or a letter or two, a couple of forms, and a little time. The beauty of it all is that once you've gone through it, you're ready—the right way. And, you won't need to do most of this the next time.

Of course we all know about people who go back and forth into Canada and Mexico regularly having done none of this. And I don't doubt that you could too. But the point is, if you get in any kind of trouble, you'll be held responsible for everything required under the law that you should have done, but didn't.

Taking time to get things in order *before* you go across the line is much like buying $50 deductible insurance: It's only worth it when you need it, and then, man you *really* need it!

Suddenly gas rationing looks real. And even if we manage to avoid rationing, fuel prices are sure to go up. Whatever happens, these practical tips will help you get the most miles to the gallon.

1.

Keep your car well-tuned and properly maintained. Follow the periodic maintenance procedures recommended in the owner's manual.

2.

Go slower. Reducing speed from 60 mph to 50 mph can get you 10 or so free miles for every 100 you drive. Legal speed limits are going to be reduced anyway, so learn to enjoy it.

5.

Fast stops cost fuel. They waste coasting time that otherwise could have rolled you up to a red light or stop sign with practically no use of gas.

6.

Keep your speed as steady as possible. Economy driving calls for smooth operation of the car. Quick acceleration demands an extra squirt of gas into the engine. Anticipate slow-downs and speed-ups and avoid gas-eating spurts.

9.

Don't ride the brake pedal for slight slow-downs, and don't use the brake pedal as a rest for your left foot.

10.

Plan your errands so that one trip can take the place of two or three.

13.

A dirty air cleaner restricts the flow of air to the carburetor, causing the engine to run on a richer mixture—a higher-than-normal ratio of fuel to air.

14.

Spark plugs that misfire only 2% of the time (not even noticeable to the average driver) spew raw gasoline out the exhaust pipe. Check plugs regularly.

adapted from *Ford Times*

3.

Don't let the engine idle for long periods. If you're waiting for someone outside the office or the BX, turn off the engine.

4.

Look ahead to upcoming traffic lights. When approaching a red light, slow down if traffic permits and give the light a chance to turn green. A full stop means wasted gas getting the car in motion again.

7.

If you have the "jack-rabbit-start" habit, break it. Fast starts when the light turns green waste gas with either automatic or manual transmissions.

8.

Keep the carburetor adjusted to factory specs. It doesn't have to be leaned out to extremes for good economy.

11.

Organize a car pool, not just to get to work but for recreational activities as well. Why should everybody drive to the bowling alley or the golf course in his own car? Car-pooling offers a fringe benefit—it can be fun.

12.

Watch tire inflation. Underinflation increases rolling resistance, and that means more gas to drive the car.

15.

A dirty or faulty carburetor or a sticking automatic choke wastes gas (and contributes to air pollution, too).

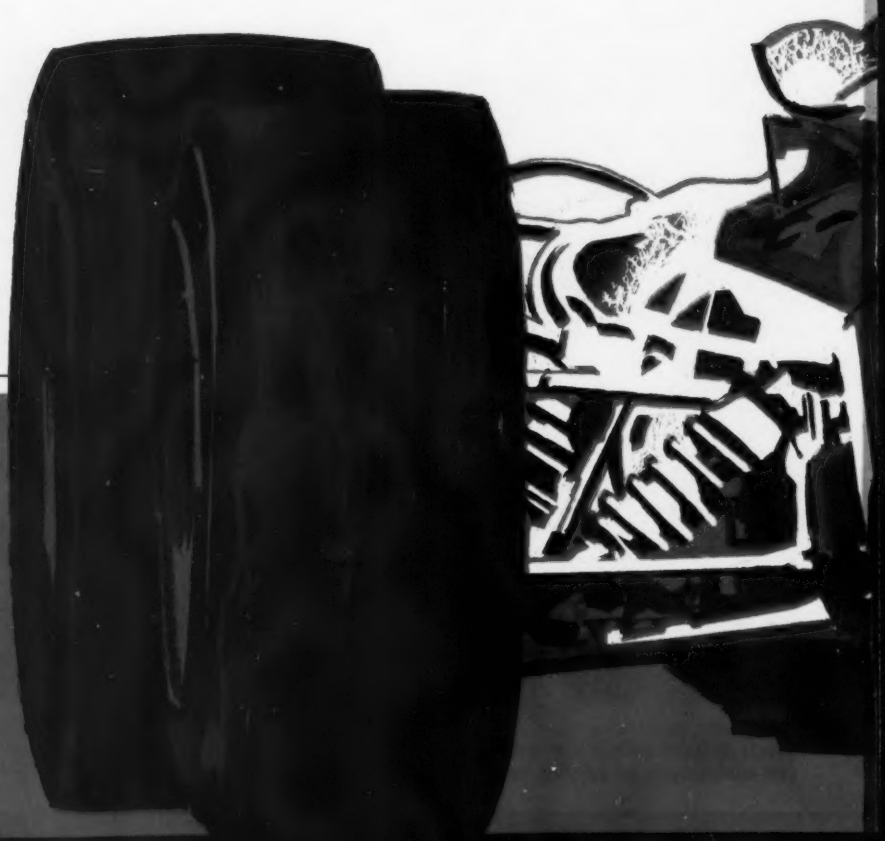
16.

The cooling system thermostat is a factor in fuel economy. A faulty thermostat can waste gas by prolonging engine warm-up in cold weather.

RACER'S NOTEBOOK

A page from the Racer's Guide to Survival for both the road and track

by Lt LARRY RANDLETT

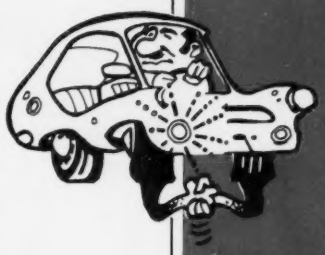


Racing teaches a driver a lot of lessons. There are the obvious ones, of course, such as shifting and cornering. But some of the most important lessons are the least apparent—like avoiding a crash at speeds from 60 to 160, and surviving crashes that cannot be avoided at those same speeds. Here are some of the principles racers use that might be of some help to you.

PRINCIPLE 1

A car changes direction (steers) due to friction developed between the roadway and tires.

This means the steering wheel does not turn the car, it only turns the front wheels. The rolling wheels turn the car. Almost everyone has experienced difficulty steering a car on ice or a sandy road. Similarly, oil or water on a roadway reduces the friction between tires and the surface and reduces your ability to turn the car.



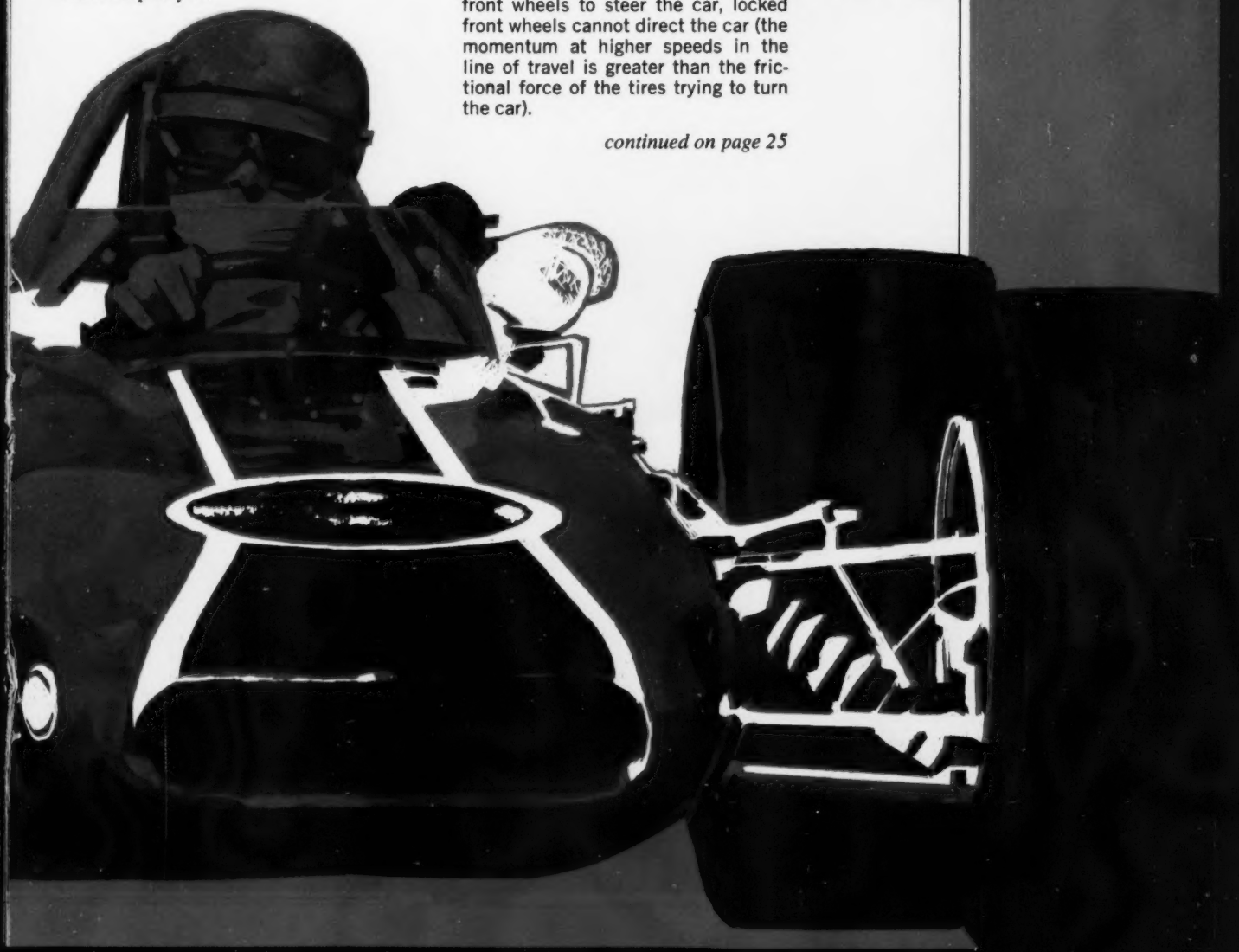
PRINCIPLE 2

A rolling wheel develops more friction than one that isn't.

The effects of this fact are far-reaching. It means that if you lock up the **rear wheels,** the rear end of the car will try to pass the front.

Since it takes the friction of the front wheels to steer the car, locked front wheels cannot direct the car (the momentum at higher speeds in the line of travel is greater than the frictional force of the tires trying to turn the car).

continued on page 25



VISIBLE IS ALMOST

The motorist can't respect your rights on the road unless he can see that you're there

This is an article about bikes and how not to get wasted on one. But we're not going to tell you how dangerous it is to ride a motorcycle. We all know that merely riding isn't dangerous—so we're not going to hassle this point. But we are going to tell you that getting hit by a car *is* dangerous.

Anybody who doesn't think tangling with a car is a bogus deal should consider these facts. Motorcycles are involved in less than 1 per cent of all traffic accidents, yet 3½ per cent of the people who get wasted each year are on bikes. Also, if you have a run-in with a car your chances of being seriously injured are about 80 per cent.

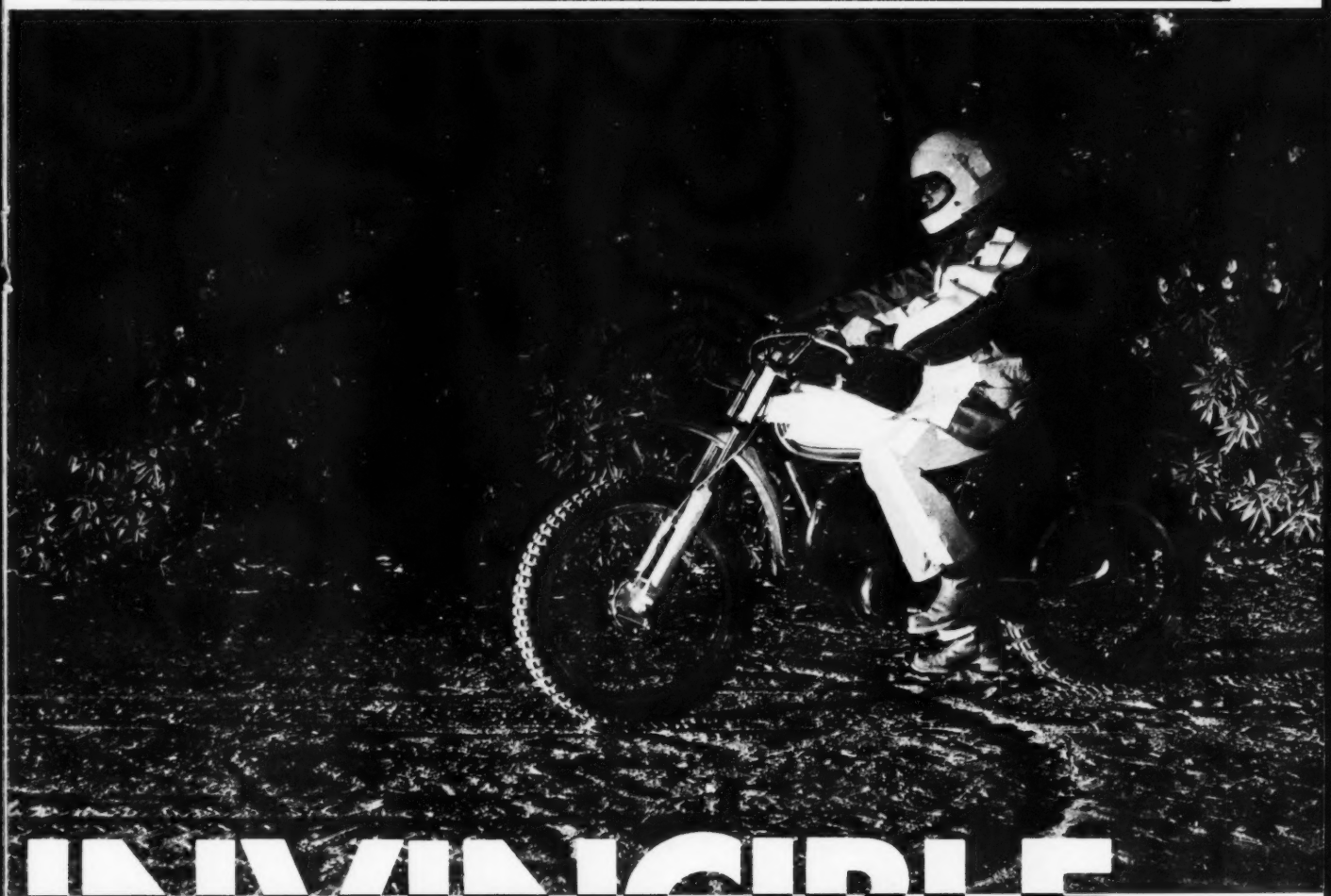
Well, we could go on with stats like these all day—but they really don't have much to do with the problem. The street rider's main problem is not that he is vulnerable in a crash, but that he is in so many crashes. Why is he in so many crashes? Well, mostly because of his unique property of *invisibility*.

continued

(above)
A few strips of standard reflective tape make a bike and rider far more visible at night. This inexpensive tape is available at most discount, department and auto supply stores. Photo 1 shows a motorcycle on a dark street illuminated by a car's low beams. Photo 1A was taken under same conditions but reflective tape has been applied.
Note: A bike without a headlight was used so the improved visibility caused by the reflective material would be most obvious.

(right)
A rider with a reflective helmet and jacket glows down a dark street. Use of retro-reflective material makes a bike and rider more than twice as visible to an oncoming car.

1a



INVINCIBLE

Bicycle riders have the same visibility problem as motorcyclists. If you ride a bicycle, think about adapting some of these ideas for your own use

A lightweight retro-reflective riding vest, such as pictured, is the handiest way to grab other motorists' attention on the road. These inexpensive vests are available at many bike shops and can be easily stuck in a pocket when you get where you're going.

The majority of motorcycle/car accidents occur in urban areas and involve a violation of the motorcyclist's right-of-way at an intersection or in a turning situation.

But most importantly, ¾ of the accidents occur during daylight hours with good to perfect visibility conditions. The reason—*the car's driver just doesn't see the motorcycle in about 75 per cent of the accidents.*

A lot of bikers resent the "I-didn't-see-him" syndrome, feeling that any competent driver should be aware of every vehicle on the road. But whether the car driver should have seen you doesn't much matter after he has knocked you off and maybe even run over you. So if you're really concerned about cars not turning or pulling out in front of you, it's a good idea to make yourself very visible to other motorists.

The best way to up your visibility on the road is to light up at all times. There's been quite a bit of controversy lately concerning the effectiveness of headlight use during daytime. However, the major bike manufacturers endorse this practice, and several recent studies have shown that riding with lights on is the only way to go.

One such independent study found the use of a motorcycle headlight's high beam increases the bike's noticeability 142 per cent *on a bright, sunny day*. This same study reported that motorcycle accidents dropped 43 per cent in four states where mandatory headlight laws were adopted.

Lighting up is essential for making yourself more visible on the road. But there's another important visibility principle many street riders overlook. This involves the relatively small size of a bike and rider compared to the other vehicles on the road. Because of the bike's unfamiliar size and shape, motorists frequently misjudge the position and speed of a motorcycle when they do see it.

This problem is especially bad at night or when the rider is wearing dark clothing, since a motorist may see nothing but the bike's glowing headlight. With no other visual clues to help him locate the bike's position, a motorist may still try to turn in or pull out in front of an oncoming bike. This problem can be easily overcome, however, by giving the other motorists the visual clues they need to *really* see you instead of just noticing the bike's headlight.

You can give these clues by wearing brightly colored clothes, or preferably a special reflective riding vest or jacket. High-visibility vests like road construction workers wear also work well for daytime use. These vests are often available at very reasonable cost through surplus stores. The important point is that riding clothes should be bright or unique colors to attract a driver's attention and give him a larger target by which to gauge your position and speed. In this regard fluorescent colors are best, being about twice as visible as similar non-fluorescent colors. Figure 1 indicates the visibility distances of various colors.

Nighttime presents a slightly different perception problem for you and other motorists. When a motorist sees you coming on a bike, all he sees is a single headlight and he's not sure what or where you are. And if you cross in front of him he may not see you at all. So at night it's even more essential to give other motorists meaningful visual clues. A retro-reflective vest or jacket is best for this purpose. But even some reflective tape or material on your bike and clothing can make you highly visible at night. Retro-reflective materials make you more than twice as visible at night to an oncoming car using low beams.

Probably the handiest way to give other motorists a good target to avoid hitting is a special riding vest such as pictured. These inexpensive vests are brightly colored for daytime use and retro-reflective so they are very effective after sundown. The lightweight vests are no hassle to wear and can be easily stored, or stuck in a pocket when you get where you're going.

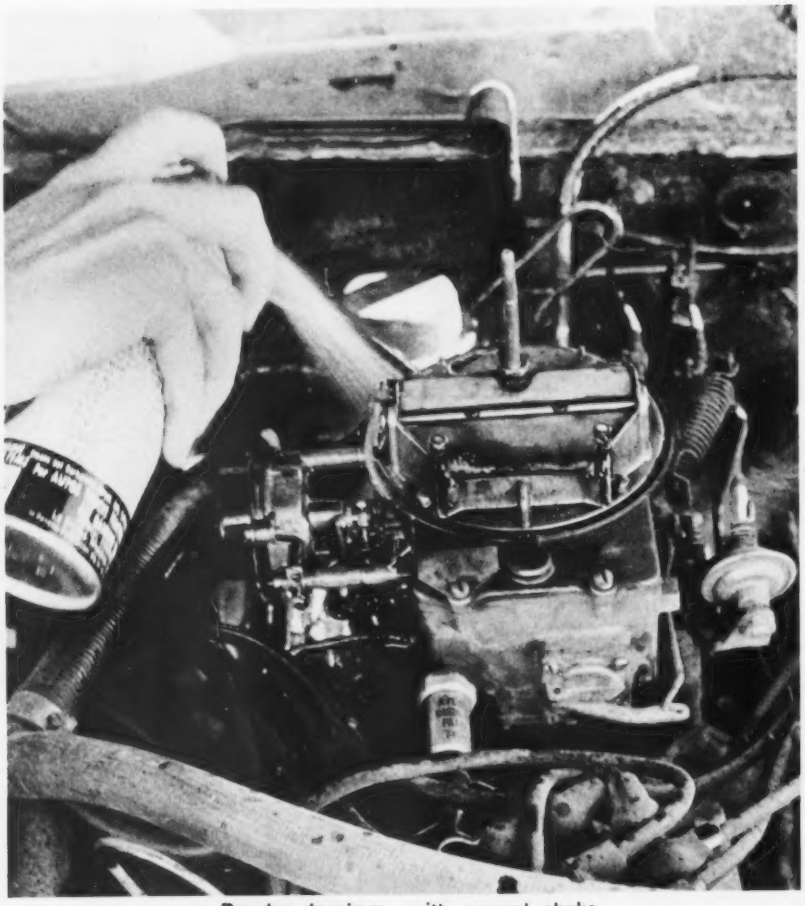
So these are a couple of methods of upping your visibility on the road. Many street riders know they have an invisibility problem, but they think it's too much of a sweat to do anything about it. But it's no big deal to flip on your headlight and throw on a riding vest. And one thing for sure, if you're already protecting your body and riding cautiously, you'll have an awful lot going for you on the road if you also up your visibility.

RECOGNITION DISTANCE BY COLOR

	Clear—Sunny Day
Fluorescent Yellow-Orange	443 ft
Fluorescent Red-Orange	396
White	338
Yellow	319
International Orange	242
Red	187

The AUTOMATIC CHOKE

Keep it automatic to save gas and cut emissions



Regular dousings with areosol choke cleaner will help prevent the most common choke problem—sticking linkages.

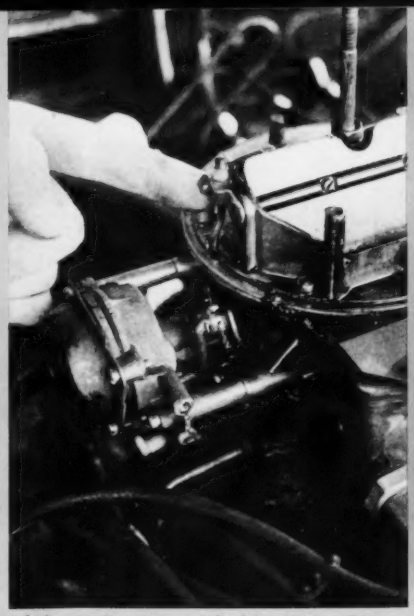
Now that the cold season has really arrived, you may have discovered that your car doesn't start so well. If so, it's probably because it's not getting choked. Even if your car is super-tuned it's going to have starting problems if the choke isn't doing its thing.

Today's automatic chokes, while generally more reliable than the manual type, are not perfect. Ailments such as incorrect adjustment, a sticking linkage, or a faulty thermostatic coil can cause starting as well as performance problems for your engine. But most choke problems are the result of a simple lack of maintenance and can be remedied with a can of aerosol choke solvent and a screwdriver.

WHY A CHOKE?

Most engines are designed to run on an air/fuel mixture of about 14 to 1, or 14 parts of air to every part of fuel. But there's one problem. When an engine is cold and inefficient it can't ignite this lean a fuel mixture. To start a cold engine, more fuel and less air must be supplied to the combustion chambers.

A choke takes care of this problem by simply closing off the carburetor throat, allowing less air to enter the carb. With less air in the carb, the percentage of fuel going to the com-



A sticking choke plate linkage is common—check the plate regularly for free operation.

bustion chambers increases and combustion occurs more readily. As the engine warms, the choke plate gradually opens, allowing more and more air to enter the carb until the engine is fully warmed and burning the normal fuel mixture.

CHOKE TYPES

There are three basic types of automatic chokes used today. But the well-type and in-carb chokes are by far the most common. These chokes use a temperature-sensitive metal coil and a special vacuum control unit to regulate the operation of the choke plate.

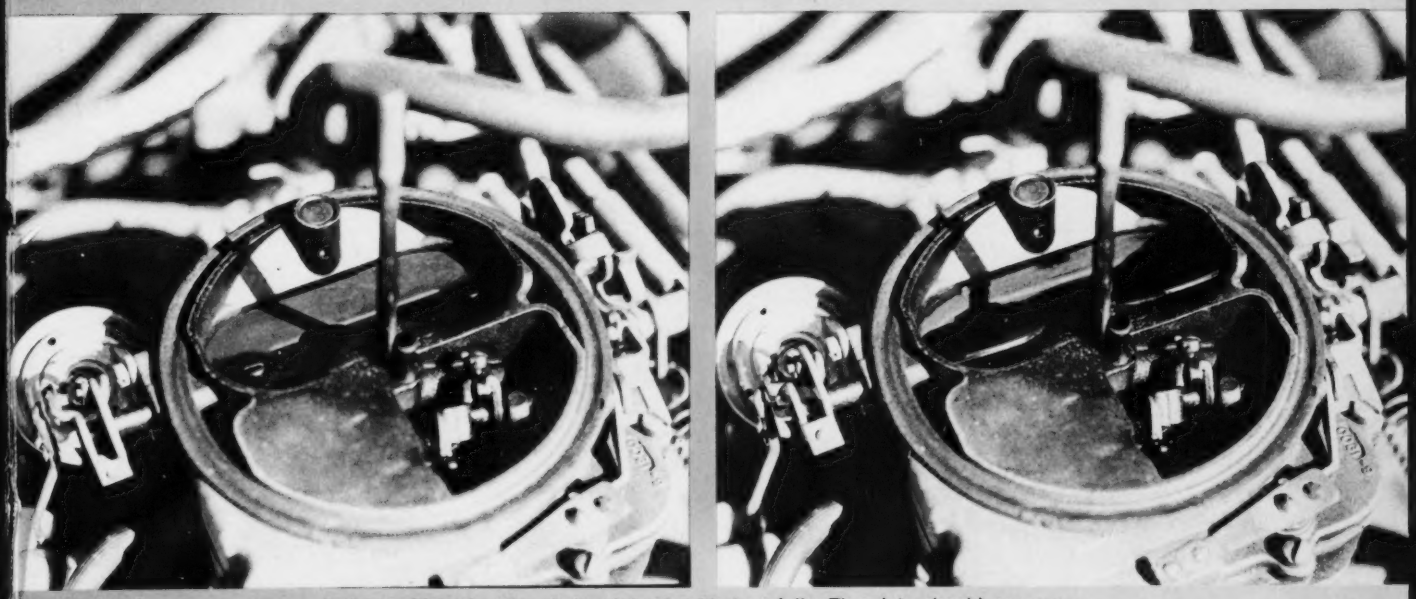
The well choke is used on most Chrysler products and has the thermo coil located in a special well on the intake manifold. This type choke is easily identified by a connecting rod running from the coil to the choke linkage at the carb. It also uses an external vacuum control diaphragm.

In-carb chokes are the most popular type and are used on most Ford and GM products. The thermo coil and vacuum control are actually part of the carburetor with this choke. The in-carb choke is characterized by the round thermostatic coil cover on the back or side of the carb.

The third type of choke is the water-heated system used on some late model Ford products. This system operates in essentially the same manner as mechanical chokes, except that it is controlled by the cooling system water temperature. Because these systems are rare, as well as prac-

continued

The water-heated choke, used on some late model Ford products, is a very reliable and maintenance-free choke system. Adjustments are made by turning the cover to realign the calibration lines.



With a cold engine the choke plate should close fully. The plate should pop open slightly when the engine starts. If not, the choke's vacuum control needs adjustment or replacement.

ically maintenance-free, they won't be discussed. However, a service manual gives complete information if your car uses this type choke.

OPERATION

The common well and in-carb chokes, while slightly different in design, operate in essentially the same manner. When an engine is started cold, the thermostatic coil tension is very high and holds the choke plate closed—even though the vacuum unit, which is attached to the choke plate linkage, is pulling on the plate trying to open it. But as the engine warms, the coil tension decreases and the vacuum unit is able slowly to overcome the coil tension and open the choke plate. With the engine at operating temperature, the vacuum pull easily overcomes the weak coil tension and the plate stays open.

CONDITION

When a choke isn't doing its thing it's usually pretty obvious, since the car won't start or keep running after it starts. But frequently, a sticking or improperly adjusted choke goes unnoticed. Since either of these conditions cause excess fuel consumption and exhaust emissions, the choke should be checked out regularly—even if the engine starts easily.

But before checking the choke's operation, make sure the choke plate operates freely. It's a good idea to thoroughly clean the entire choke assembly with solvent *before* checking the choke operation. Dirty or sticking linkages are by far the most frequent causes of choke problems.

CHECK OUT

To check the choke, remove the air cleaner top so you can observe the choke plate. With the engine cold and not running, the choke plate should be closed. If it's not closed (a non-closing plate is rare), the choke coil probably needs adjustment or replacement—this will be covered later.

Start the engine. If the closed plate cracks open slightly, then gradually opens as the engine warms, the choke is operating correctly. However, it may still need adjustment.

ADJUSTMENTS

Other than sticking linkages, a choke that opens too quickly or too slowly is the most common choke problem. If the plate opens too fast (lean setting) the engine will stall and waste gasoline until it can warm itself. More often the choke plate opens too slowly (rich setting), or overchokes. In addition to wasting gas, overchoking causes excess engine wear by allowing excess raw gas to go into the engine and dilute the oil. Dark exhaust smoke during warmup means you are wasting gas and polluting the air unnecessarily and that you need a leaner choke setting.

Adjusting an in-carb choke is especially easy. Remove the air cleaner assembly and locate the plastic coil cover on the back or side of the carburetor (see photo). The cover is calibrated with lines showing richer and leaner settings. There is also an arrow indicating the leaner settings. Moving the cover to the left (in the direction of the arrow) leans the choke setting by reducing tension on the coil and allowing the choke to open sooner. Turning the cover to the right richens the setting by holding the choke closed longer.

If an adjustment is needed, simply loosen the three screws holding the cover and move the cover one line in the appropriate direction. Tighten the screws and test the new setting with a cold start. *The leanest setting that will start the engine and keep it running properly is best.* A service manual gives the normal recommended setting for your car, usually one line rich—but this may be a bit rich for many climates. You can experiment with the setting to find the best one for your engine and climate.

WELL CHOKE

Most well chokes are not adjustable, so if you experience choke problems with this type, you'll probably have to replace the entire coil assembly. However, a few Chrsyler products do have adjustable well chokes (check your manual). After removing the coil from the well, the locknut holding the calibration plates can be loosened and the lines realigned for a richer or leaner setting—whichever is required. The standard setting on these chokes is one line rich.

COIL

If the choke plate fails to close with the engine cold, or fails to open correctly after adjustment, the thermostatic coil should be replaced. On an in-carb choke this is accomplished by removing the three screws holding the plastic cover. The coil fits inside the cover (see photo) and can be easily

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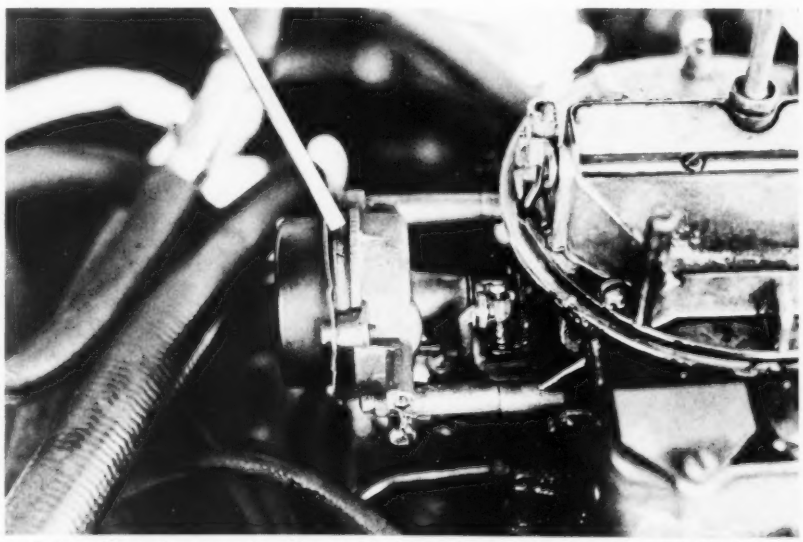
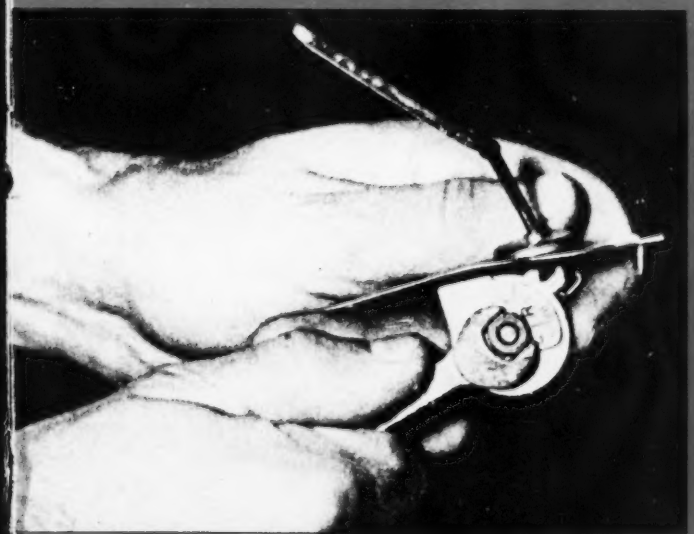


Automatic chokes occasionally need to be readjusted to a leaner or richer setting. Adjust an in-carb choke by turning the thermostatic coil cover. Lines on the cover indicate the degree of setting—either richer or leaner.

The thermostatic coil is located in the plastic cover on in-carb chokes. The coil is easily replaced if weak or seized.

The well choke has its thermostatic coil in a special well on the intake manifold. To remove the coil, loosen the well cover, disconnect the rod at the choke linkage, and lift out the coil assembly.



Most well chokes aren't adjustable. But a few Chrysler products do have adjustable well chokes. To make an adjustment, loosen the locknut and realign the plates to increase or decrease coil tension, which richens or leans the setting.

pulled loose and the new coil installed.

Replace the cover, making sure any spacers or washers are correctly installed and that the coil attaches to the choke plate linkage as did the original coil. Set the choke to factory specs and try a cold start.

To replace the coil on a well choke, loosen the nuts on the well cover and remove the cover. Then disconnect the connecting rod at the choke linkage and lift the coil assembly from the well. Install a new coil on the end of the rod and place the entire assembly back into the well. Don't forget to reattach the connecting rod at the carb.

VACUUM UNIT

The vacuum control unit on a well choke occasionally goes bad. If the choke plate does not pop open when the engine is started cold, or opens extremely slowly after replacing and/or adjusting the thermo coil, you may have a bad vacuum unit.

To quickly check the vacuum control, with the engine warm and idling, close the choke plate and release it. If the plate doesn't open immediately, the vacuum unit is probably faulty.

In this situation, the next step is to pull the vacuum line loose from the control unit and check for vacuum (with the engine running). If there isn't vacuum, check for a leak or plugged line. If there's sufficient vacuum at the line, the unit is faulty. Replace it by removing the screws holding the unit to the carb and install a new one.

The vacuum control on an in-carb choke very rarely malfunctions. However, if it does, it's probably because the vacuum piston is sticking in its bore (see photo). Remove the coil cover and check to see that the piston moves freely. A few shots of solvent can usually free a stuck piston. If the piston is free and the vacuum control fails to operate, the entire choke assembly will have to be replaced.

VACUUM KICK

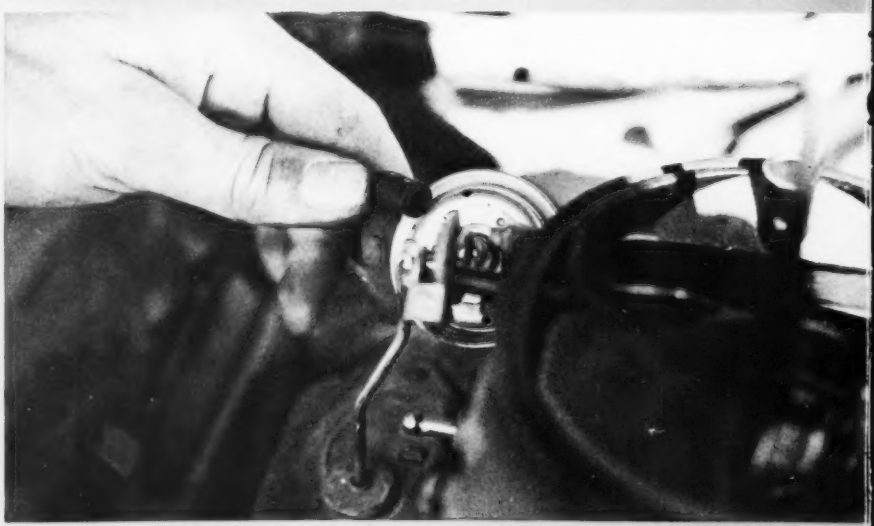
One other choke adjustment which can give you problems is what's known as vacuum "kick." This refers to the amount the choke plate opens when the engine is started cold. The plate must open for the engine to get enough air to continue running after it starts. But if the plate opens too far, the engine will stall because of the lean mixture. If you continue to have choke problems after checking the other adjustments, a vacuum kick adjustment may be needed. A service manual gives specs and procedures for this job.

CLEANING

As previously mentioned, the most important choke maintenance is a regular dousing of the entire choke assembly with solvent. On in-carb chokes, the internal surfaces—especially the vacuum piston and bore—should also be sprayed. But be sure to use only choke solvent or carb cleaner since oil causes linkage sticking dirt to collect.

If you keep your choke clean and doing its thing, you shouldn't have to hassle with no-starts and cold engine stalls. But even more important, an engine that starts and warms up properly uses less fuel and expells fewer emissions. So by keeping your choke and emission control systems "right on" you can do your thing for your budget, as well as our scarce fuel and air.

The vacuum control on an in-carb choke is a special piston inside the carb. An occasional shot of solvent in the piston bore keeps the vacuum control functioning.



A faulty external vacuum control on a well choke can cause delayed plate openings. If a vacuum control problem is indicated, first check the vacuum hose. If there is vacuum at the hose the unit is faulty and should be replaced.

continued from page 15

PRINCIPLE 3

Brakes don't stop the car, tires do—rolling tires!

I have already discussed the differences in the friction developed between a rolling and a skidding tire. It should also be understood that wheels locked up have less braking effect than rolling wheels.

PRINCIPLE 4

Anything can happen; try to prepare for these "imminent dangers."

This principle does not require you to possess super-skills. It can be satisfied by playing a game most drivers play—"what if?" In this game, you ask yourself "What if that guy cuts me off?" or "What if my brakes fail?" or "What if I come around this corner and find my path blocked?" Then plan what your course of action would be: accelerating, braking, dodging, escaping, giving another driver extra room, etc.

If you practice this game it will eventually become automatic.

PRINCIPLE 5

"Unavoidable" accidents are almost always avoidable.

As many accidents are caused by **inaction** as are the result of **improper action.** Instead of taking evasive action, a driver freezes. Instead of accelerating out of danger, the driver stares at one object. In all cases, an accident occurs because the driver doesn't take action.

When faced with pending disaster, don't just sit there, do something. If you have already planned for this possible situation, chances are you'll make it through okay.

PRINCIPLE 6

Off the road does not mean out of control.

Many times drivers react as though they were restricted to the paved surface of the road. However, accidents can often be avoided by leaving the roadway. The main idea is to keep control of the car, whether on or off the paved surface.

In any case it is wise to be aware of the conditions on either side of the highway. It would be unwise to leave the road and hit an abutment or drive into a ditch. But if the road shoulder is suitable, there is no reason it cannot be used to avoid an accident.

These six principles are far from being all that a driver (racing or street) needs to know about survival in an automobile. Every racer knows about, and swears by, the life-saving characteristics of safety belts. But not all of them are aware of what makes a car steer or brake.

Just reading these principles is not going to make you a better driver, but understanding and applying them will. The top racing drivers of the world survive by applying these principles. You can survive by using them too. Good luck!

BACKFIRE

ARGUMENT FOR SAFETY BELTS

Several years ago, I was driving cross-country. Nearing the end of a long and arduous day behind the wheel, I was hung up by two slow moving and tailgating trucks.

After 20 minutes I pulled out to attempt a pass. A car was approaching, and I knew I would have to hurry to make it past both trucks for there did not appear to be room to get between the two. Just as I was about to apply full acceleration, a sixth sense told me, "Don't do it." I instinctively pulled back into line, but as I did, another car, apparently as frustrated as I, came whizzing by.

Evidently the driver realized she couldn't make it past both trucks, because she quickly pulled in between the two. Because of her speed, she had to slam on the brakes to avoid running into the back of the leading truck. This caused her to swerve partially into the opposite lane, and the oncoming car clipped her just enough to spring open the right door and literally eject her husband out of the car like a jack-in-the-box and onto the road, where the wheels of the second truck passed over him.

The experience made me sick—but it also made me acutely aware of the importance of using seat belts. And it pointed out to me very vividly that a person who is driving while tired or impatient is looking for trouble.

Kenneth W. Finch,
Major, U.S. Army
Fort Bragg, NC 28307

SUBSCRIPTIONS AVAILABLE

Ran across an issue of your DRIVER magazine; thoroughly enjoyed reading it and would like to know how and where I can obtain a subscription.

Major RobertR. Meyer, USAF (Ret)
Fox Island, Washington 98333

DRIVER is available on subscription from the Government Printing Office and you will find details on the contents page of every issue.

DRIVER DISTRACTIONS

"Driver Distractions" in the May DRIVER was well done and a good warning. But you forgot a distraction that is becoming very popular. I am thinking about the driver who has all the windows rolled up, air conditioner on full blast, and dual stereo speakers blaring away.

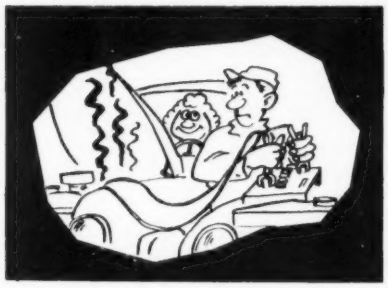
As a former fireman, I can tell you something about this type driver. You can come up on him with sirens blasting and he won't hear you. But when he finally does see your large red truck on his tail he makes a panic move to get out of the way. Thus, he endangers not only himself and the emergency vehicle occupants, but the people around him.

Along these lines, I find interesting the car ad that talks about eliminating all outside noise when you roll up the windows.

Private Bruce Cunha
Walter Reed Army Medical Corps
T-C Box 1648
Washington, DC 20012

Your comments about the built-in dangers of a sound-proof, sound-isolated car are very interesting. By the way, you might be interested to know that use of stereo headsets by California drivers as pictured on the May '73 cover is illegal as of 1 Jan 1974.

JUMP STARTS



I disagree with your article on "Jump Starts" in the August '73 issue. My disagreements are as follows:

1. It is possible to use a 12-volt system to jump a 6-volt system as long as the cables are not connected for a long period of time. If they are not, no damage will result to the 6-volt system.

2. I was a wrecker operator for 3 years prior to my enlistment in the service. During this time I started more cars than most people have. I have never once taken the filler caps off a battery except to check for water level or a frozen battery. Also, I always hooked the negative cable to the negative post of the battery. I have had the cables spark but never have I seen one blow up. I have, though, when using a battery charger.

Private John B. Faryniarz
HHC 4th BW 37th Armor
Fort Knox, Kentucky 40121

You're right, a 6-volt system can be successfully jumped with a 12-volt battery. But damage to electrical components can occur even if the cables are quickly removed, so the experts recommend against it. You're also right about the minimal chance of a battery explosion during a jump start. But it ***has*** *happened, and we think the possibility warrants taking the simple steps that will help prevent an explosion.*

LETTERS TO THE EDITOR

NIGHTTIME AT THE TRACKS

Your article about railroad crossings was informative and valuable as far as it went. But you left out the most dangerous aspect of grade crossings: An unlighted grade crossing is one of the most dangerous nighttime driving hazards simply because a driver cannot see a train from the side at night. The only lights visible on a train are the headlight and the red light on the last car. Freight cars are invariably painted dark red or some other nonreflective color. Automobile headlights, even high beams, at highway speeds do not allow a driver to see a train from the side until it is often too late.

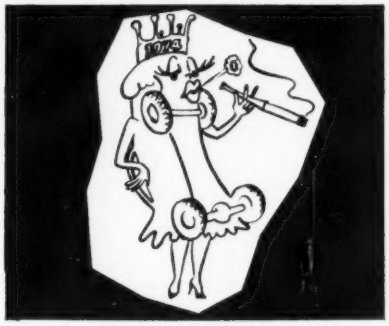
The only visual indication of a train crossing a highway at night is the flashing appearance of headlights on the other side of the train's wheels. If the train is stopped, the headlights simply add to the illusion that nothing is blocking the road.

I noticed all of your photographs were in bright daylight. A series of nighttime shots might be illuminating —if your photographer can shoot a dark train against a dark horizon on a dark night!

There is really little a driver can do to see a train at night except to use high beams and slow down at railroad crossings. Perhaps if enough safety officials realize this problem, trains will be required to have running lights just like automobiles, trucks, ships, and aircraft.

SSgt Leslie J. Olson
137th Communications Flight
Oklahoma Air National Guard
Oklahoma City, Oklahoma 73169

1974 GOODIES



I read with interest your article entitled "The 1974s," on Detroit's latest automobile offerings (Sep '73 issue). I would like to know which automobile company is producing the tempmatic charcoal filter described on page 14.

On a separate topic, do you have any additional information on "Radial Tire Matching" described on the top of page 14? Once again, information on which manufacturer, or particular car model, has the "tuned" suspension system for '74.

I have enjoyed reading DRIVER and would like to thank you for the information you bring to our attention.

Lt Lee Durrell Johnson
6970th Air Base Group
Fort Meade, Maryland 20755

The tempmatic charcoal filter is from Oldsmobile and the "1974 autos with suspension systems tuned for radial tires of certain specifications and dimensions" refers to General Motors. Perhaps you're aware that most American manufacturers have in fact been "tuning" their suspensions for radial use since 1971. The interesting thing here is that the 1974 tires will carry a part number. The suspension system is tuned for that specific tire and an identical replacement can be readily obtained. Hope you have by now read "Tire Special" in the October issue.

BUYING A CAR

Because I am under the age of 21 I cannot buy a new car for stateside delivery. This is despite the fact I have the full cash amount to pay for the car.

My wife and I are both in the service and are considered adults by our home state of Florida. We pay taxes, vote, can purchase a home, and raise a family. Why then are we not considered adult enough by the auto manufacturers to be allowed to buy a decent car?

A1C William E. Darrell
Sembach Air Base, Germany

The manufacturers you refer to have established their policies to avoid having to determine, under the laws of each of the various states and countries in which they conduct business, whether the person under 21 ordering a car has the legal capacity to contract. American Motors, Chrysler, and GM sell only to persons 21 years of age and over. Ford Export Corporation, however, accepts orders from any qualified AAFES patron regardless of age, provided the customer can pay for or finance his purchase.

It appears that, as a result of your letter plus some concentrated efforts on the part of DRIVER, this inequitable situation may soon be resolved. Negotiations are being conducted with these three motor companies in an effort to change their policies to accept orders for the 18-to-21-year-old individual.

Address your letters to:
Editor
DRIVER Magazine
AFISC/SEDD
Norton AFB CA 92409

CRASH BARRIERS

People who design roads design problems, too. Their foxy new bridges have concrete abutments that cars crunch into. The new off-ramps are banked like dreams, but they open up V-shaped places in the geography that cars sail into. And all those helpful signs that tell us where we're going are mounted on heavy metal poles that some driver is sure to tangle with.

Needless to say, the tendency of some drivers to go into, off of, or through places not meant for them has been noticed by highway engineers. So they have come up with *impact energy attenuators* (crash barriers) to make these sorties into forbidden territory as painless as possible.

There are four basic types of barriers: empty steel drums, water-filled vinyl tubes, frangible (break-away) concrete barriers, and sand-filled plastic drums. Their purpose is to slow the speed of the car before the ultimate collision. It's the instant stop that spells disaster. With the barrier, the car still will be damaged. But *if the driver is wearing restraints*, he will probably walk away from it.

The barriers are in place on highways in 11 states and more are coming. Personal testing is not recommended.

That's sand you see being forced out of plastic drums. The driver of this small import survives because the car is slowed at a progressive rate instead of coming to an instant stop.

Answer to

"WHAT SHOULD YOU DO?"

(See back cover before reading)

Your instinctive reaction, whenever anything goes wrong, is to hit the brakes and get yourself slowed down as soon as possible. But in this case that's the worst thing to do. Hard braking will probably cause you to lose control. You want to STAY OFF THE BRAKES AND STEER FIRMLY TO A GRADUAL STOP IN THE EMERGENCY PARKING ZONE. Lift your foot off the accelerator and steer the car off the side of the road. If you absolutely must use brakes to avoid other traffic, do so as gently as possible. The correct answer is A.

A HITCH IN THE NEW BUMPERS?

By now everybody has heard that bumpers on the 1974 cars have a new feature—they can't be damaged by a 5-mile-an-hour collision. If you own one of these cars, however, you may have some trouble installing a trailer hitch.

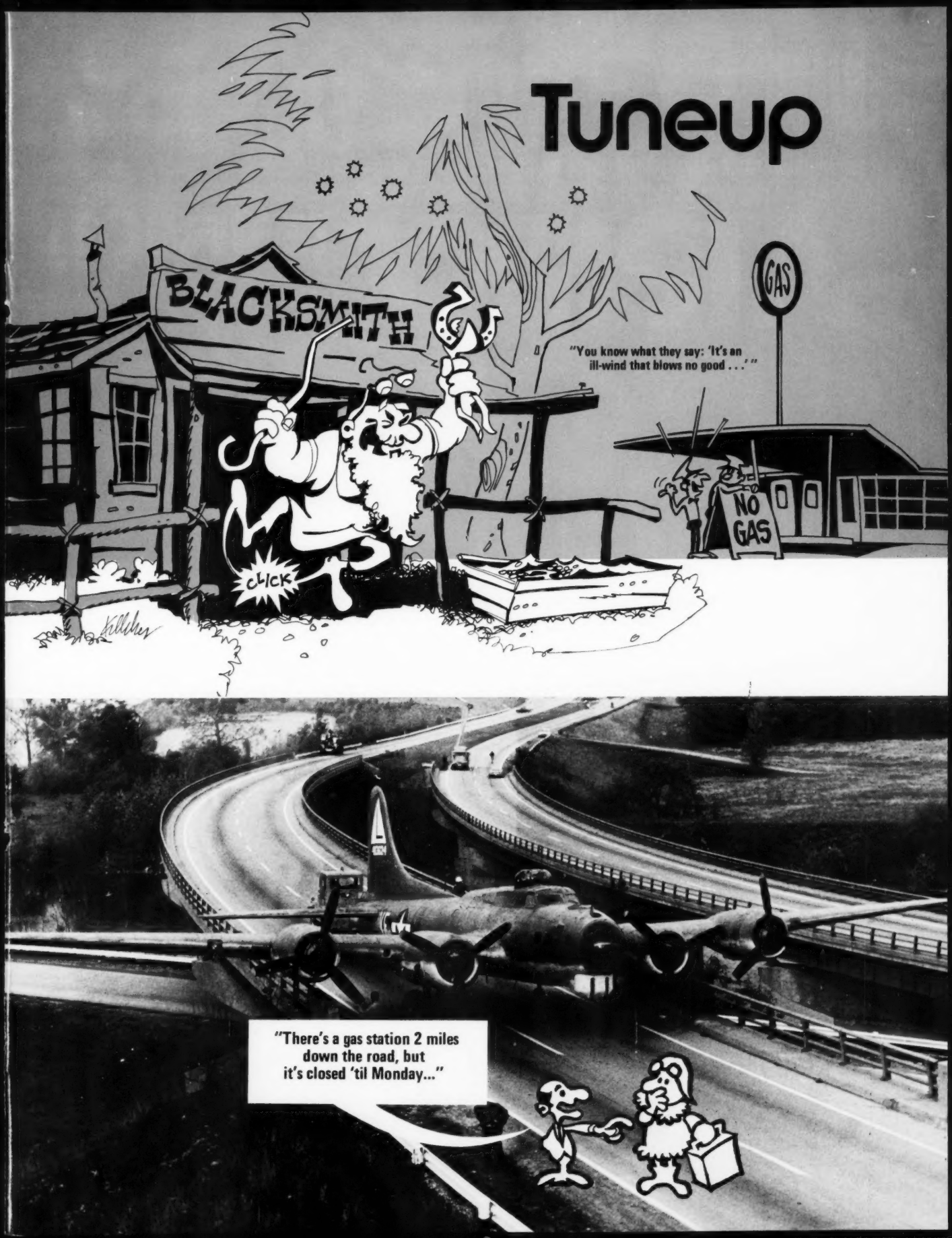
Federal Safety Standard 215 set the no-damage requirement, but different manufacturers met the Standard in different ways. Some of the improved bumpers have a collapsible feature which allows them to bounce back after impact. Lighter-duty hitches which bolt onto both the bumper and the car's frame will interfere with the bumper's operation.

The 1974 owner's manual from American Motors advises not to use such hitches, even on the Gremlin, Hornet and Javelin which don't have the collapsible bumpers. And Ford includes a caution note saying bumper hitches are not recommended on their 74s, although they add that certain hitches which clamp on are acceptable.

The trailer hitch companies apparently got caught short on this one but they're working on it now and undoubtedly will come up with something safe and efficient. Until they do, some people are going to have problems hauling boats and trailers.

ABOUT MISS DRIVER

Petite Mary Donaldson is a secretary at Norton AFB and happy about it. Her leisure time is spent outdoors as much as possible, playing tennis and riding motorcycles. A green-eyed brunette, she likes to cook Italian food and collect Indian jewelry. Mary has been driving safely for almost 10 years now and she says it's because her driving instructors at school made a lasting impression on her about the importance of learning safe driving habits.


Tuneup
BLACKSMITH
GAS
"You know what they say: 'It's an ill-wind that blows no good . . .'"
NO GAS
CLICK
"There's a gas station 2 miles down the road, but it's closed 'til Monday..."

What Should You Do?

You're in the #1 (fast) lane of a divided six-lane highway. There are vehicles ahead, behind and to the right of you. Your left front tire blows out. What should you do?

A. Stay off the brakes and steer firmly to a gradual stop in the emergency parking zone.

B. Medium brake to a stop as quickly as possible.

(See answer page 28)